

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 41017	FOR FURTHER ACTION	See item 4 below
International application No. PCT/ZA2004/000082	International filing date (<i>day/month/year</i>) 23 July 2004 (23.07.2004)	Priority date (<i>day/month/year</i>) 31 July 2003 (31.07.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant HUMAN, Jan, Petrus		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 13 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input checked="" type="checkbox"/> | Box No. II | Priority |
| <input checked="" type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input checked="" type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input checked="" type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 740 14 35	Date of issuance of this report 06 February 2006 (06.02.2006) Authorized officer <div style="text-align: center; font-weight: bold;">Simin Baharlou</div> Telephone No. +41 22 338 71 30
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PATENT COOPERATION TREATY

REC'D 27 APR 2005

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From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below.

International application No.
PCT/ZA2004/000082

International filing date (day/month/year)
23.07.2004

Priority date (day/month/year)
31.07.2003

International Patent Classification (IPC) or both national classification and IPC
B29C43/36, B29C43/42, B29C31/04

Applicant
HUMAN, Jan Petrus

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/ZA2004/000082

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/ZA2004/000082

Box No. II Priority

1. ☒ The following document has not been furnished:
- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
 - ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).
- Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. ☐ The International Searching Authority has not been able to consider the validity of the priority claim because a copy of the earlier application whose priority has been claimed was not available to the International Searching Authority at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
4. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/ZA2004/000082

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 15-17

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the whole application or for said claims Nos. 15-17

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/ZA2004/000082

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-14

Box No. V Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1,8,11
Inventive step (IS)	Yes: Claims	
	No: Claims	1-14
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/ZA2004/000082

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item IV.

1. This Authority considers that there are two inventions covered by the claims indicated as follows:

I: Claims 1 to 14 directed to a method and an apparatus for moulding.
II: Claims 15 to 17 directed to a cap and a method of capping a container.
2. The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:
3. Independent claim 1 relates to a method for moulding comprising:
 - providing mould components 16,18 comprising a space which has the form of a well W when the mould components are open,
 - feeding a charge of mouldable material C into said space from above so that the charge falls into the well,
 - closing the mould components 16,18 to define a cavity and reducing the volume of said well by displacing a plunger 22 which bounds the bottom of the well relatively to the mould components thereby displacing the mouldable material C from said well W into said mould cavity and fill said moulding cavity.
4. The problem solved by these technical features can be construed as providing articles having a complex shape.
5. Independent claim 15 relates to a cap comprising:
 - a skirt 58 and a band 66,
 - the band being connected to the skirt by a plurality of bridges,
 - the skirt being forced into the band.
6. The problem solved by these technical features can therefore be construed as providing caps having a pilfer-proof band.
7. Consequently, neither the objective problem underlying the subjects of the claimed inventions, nor their solutions defined by the technical features allow for a relationship

to be established between the said inventions, which involves a single general inventive concept.

8. The prior art has been identified as document US-A-4 649 013 and discloses all the features of the method according to claim 1 of the first invention (see also ch. V.2. below). It follows that there are no technical features of claim 1 making a contribution over the prior art; thus there are no technical features of claim 1 to be considered as special technical features within the meaning of Rule 13.2 PCT.
9. In conclusion, the two groups of claims are not linked by common or corresponding technical features or special technical features within the meaning of Rule 13.2 PCT and define two different inventions not linked by a single general inventive concept.
10. The application, hence does not meet the requirements of unity of invention as defined in Rules 13.1 and 13.2 PCT.

Re Item V.

1. The following documents (D) are referred to in this report:

D1 US-A-4 649 013
D2 US-A-4 913 871
D3 US-A-5 776 381
D4 JP-A- 2002 047 016

Claim 1

2. From D1 (see column 4, line 23 to column 5, line 32; and figures 2 to 6; applying the wording of claim 1) there is known a method for moulding comprising:
 - a) opening by separating one mould component 7 from another 8 to provide a space, the space is opening upwardly (see fig. 2),
 - b) a lower part of the space is in the form of a well 7a₂, (see fig. 2),
 - c) feeding a charge of material 12 into said space from above so that the charge falls into the well 7a₂ (see column 5, lines 1,2: "dropped onto ... surface 6a");

- d) closing the mould 7,8 by displacing said components into contact with one another thereby defining a closed mould cavity which is extended downwardly by said well (see fig. positions in figures 4,5), and
 - e) reducing the volume of said well by displacing a plunger 6 which bounds the bottom of the well 7a₂ relatively to the mould components (see ref. "surface 6a", figures 2,4,5) thereby
 - f) displacing the mouldable material from said well 7a₂ into said mould cavity and fill said moulding cavity (see figures 4,5)
3. From D2 (see column 5, line 66 to column 6, line 54; column 13, line 34 to column 14, line 42 and figures 2 to 4, 7 to 9; applying the wording of claim 1) there is also known a method for moulding comprising:
- a) opening by separating one mould component 12,110 from another 14,112 to provide a space 32,116, the space opening upwardly (see fig. 2,7),
 - b) a lower part of the space is in the form of a well 70,122,124, (see fig. 2,7,8),
 - c) feeding a charge of material 74,156 into said space from above so that the charge falls into the well 70,122,124,
 - d) closing the mould by displacing said components into contact with one another thereby defining a closed mould cavity which is extended downwardly by said well (see fig. 4,9; "downwardly" is a relative term), and
 - e) reducing the volume of said well by displacing a plunger 28,134 which forms the bottom of the well relatively to the mould components (see figures) thereby
 - f) displacing the mouldable material from said well 7a₂ into said mould cavity and fill said moulding cavity (see figures 4,5)
- D3 (see column 6, line 59 to column 7, line 34, fig. 5,6) and D4 (see WPI abstract, figures) also disclose the features a) to f) outlined above.
4. Thus the process according to claim 1 being known from D1 or D2, it appears that the process according to claim 1 is not new as required by Article 33(2) PCT.

Independent Claims 8,11

5. The same objections as raised against claim 1 apply accordingly.

Dependent Claims 2 to 7, 9,10,12 to 14

6. The features of these claims do not seem to be of inventive relevance as they relate to details known from the prior art or seem to be conventional to a person skilled in the art.

Industrial Applicability

7. The subject-matter of claims 1 to 14 is considered as susceptible of industrial application according to Article 33(4) PCT.

Re Item VII.

1. The claims are not drafted in the two-part form as required by Rule 6.3 PCT. Reference numerals are not added after the technical features of the claims (rule 6.2 PCT).
2. The description is not consistent with the claims (see Rule 5.1(a) (ii), (iii) PCT). Relevant prior art documents are not cited by number followed by a brief summary of the relevant contents.

Re Item VIII.

1. Although method claims 1,11 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
2. According to the requirements of clarity of Article 6 PCT all of the essential features needed to define the invention should be specified in an independent claim in such a way that a person skilled in the art would have no difficulty in arriving at the subject-matter or method according to the claim.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

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3. The claims of the present application do not seem to meet this requirement of Article 6 as the use of the terms "well" and "cavity" does not seem to be consistent. The distinction between the spaces defined by these terms is not clear. The relative terms "upwardly", "downwardly" and "from above" in claims 1,8 have no well-recognised meaning and leave the reader in doubt as to the meaning of the technical features to which they refer, thereby rendering the definition of the subject-matter of said claims unclear.
4. The definitions that "a closed moulding cavity is extended downwardly by said well" in claim 1 and that "a well which ... constitutes a downward extension of said mould cavity" in claim 8 are unclear. In claim 1 a "well" is defined as being a space when the mould components are separated, thus a space in which a material is being fed at the beginning of the compression moulding, whereas the "cavity" is defined as a space when the mould components are closed (see "in contact"). Thus, because the mould components are being displaced in a closed position, the dimensions of the space at start are changing during closing the "well" and "cavity" seem to define different spaces and a relationship between well and cavity cannot be defined. This is also derived from the expression in claim 1 "to displace mouldable material from said well into said mould cavity".
5. The term "into contact" in claims 1,8 does not seem to meet the requirement of clarity of Article 6 as when the moulds components are displaced "into contact" there cannot be any space left for building any cavity.
6. In claim 1 the definition that "opening a mould" is performed by "separating one mould component from another mould component to provide a space which opens upwardly" is not clear. According to the description and the drawings the lower part of the "space" is defined by the plunger 22 (see page 9, lines 16,17). Thus the above definition leads to the assumption that plunger 22 is part of the "another mould component". Contrary to this, the feature in claims 1,2,4 to 8 concerning the plunger 22 being displaced "relatively to said components" leads to the assumption that the "plunger" is not part of any mould component. Thus, the above definition does not seem to meet the

requirement of clarity of Article 6. The same objection applies for the definition "the lower component defines an upwardly open space" disclosed in claim 8. The "open space" is defined by the lower mould component and the plunger 22 which is not part of the lower component.

7. The feature in claims 1,2,4 to 8 concerning the displacement of plunger 22 "relatively to said components" does not seem to meet the requirement of clarity of Article 6 as it is not clear whether plunger 22 is part of a mould component. The relative displacements of the mould components are not clear. Male mould 16 (upper mould component?) comprises closure surfaces 24,26 abutting against closure surfaces 28,30 of the female mould 20 (lower mould component?) when the mould is closed. The end of the displacement is not defined.
8. The terms "an upper mould component" and "a lower mould component" in claims 4 to 7 are not clear; these terms are already defined in claim 1.
9. In the description there is disclosed that the invention concerns articles with openings (see page 2, line 3). However, this could lead to the assumption, that the invention concerns articles having holes, which according to the claims is not the case.
10. Not the same terminology is being used throughout the application (see for example "male mould 16", "upper mould component"; "lower mould component", "female mould structure 18").

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